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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/767,062	01/30/2004	Toshiaki Aono	Q79570	5486
23373	7590	08/15/2007		
SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			EXAMINER MARTIN, LAURA E	
			ART UNIT 2853	PAPER NUMBER
			MAIL DATE 08/15/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/767,062

Applicant(s)

AONO ET AL.

Examiner

Laura E. Martin

Art Unit

2853

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 11 May 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1 and 22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicant's claims fail to limit the compound being described.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

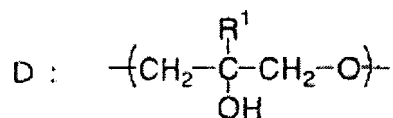
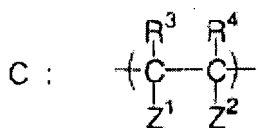
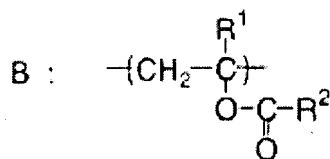
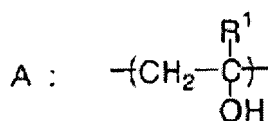
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-19 and 21-23 rejected under 35 U.S.C. 103(a) as being unpatentable over Aono (US 2003/0235707 A1) in view of Ota et al. (US 2002/0075369 A1).

Aono discloses the following claim limitations:

As per claims 1 and 22: a compound represented by the following general formula (I): $R-X-(Y)_n-H$, wherein the general formula (I), R represents a hydrophobic group, or a group derived from a hydrophobic polymer; n is an integer from 10 to 3500; and structural units of repeated Y comprise at least one structural unit represented by A, C, or D, and further comprise 0-40% by mole of structural units represented by B:

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wherein in structural units A through D, R¹ represents a hydrogen atom or an alkyl group having 1 to 6 carbon atoms; R² represents a hydrogen atom or an alkyl group having 1 to 10 carbon atoms; R³ represents a hydrogen atom or a methyl group; R⁴ represents a hydrogen atom, -CH₃, -CH₂COOH, or an ammonium salt thereof or an alkali metal salt thereof or -CN; Z¹ (X) represents a hydrogen atom, -COOH, or an ammonium salt thereof or alkali metal salt thereof, or -CONH₂; and Z² (Y) represents -COOH or an ammonium salt thereof or alkali metal salt thereof, SO₃H or an ammonium salt thereof or alkali metal salt thereof, -OSO₃H or an ammonium salt thereof or alkali metal salt thereof, -CH₂SO₃H or an ammonium salt thereof or alkali metal thereof, -CONHC(CH₃)₂CH₂SO₃H or an ammonium salt thereof or alkali metal salt thereof, or -CONHCH₂CH₂CH₂N⁺(CH₃)₃Cl⁻ [0019-021].

As per claims 2 and 23: the hydrophobic group represented by R in general formula (1) is an aliphatic group or an aromatic group [0022].

As per claim 3: the hydrophobic group represented by R in general formula (1) is an alicyclic group [0022].

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As per claim 4: the hydrophobic group represented by R in general formula (1) is selected from the group consisting of alkyl, alkenyl, alkynyl, phenyl and naphthyl groups [0031].

As per claim 5: the hydrophobic group represented by R in general formula (1) is an alkyl group having 3 to 70 carbon atoms [0032].

As per claim 6: R in general formula (1) is a group derived from at least one hydrophobic polymer selected from the group consisting of polystyrene, polymethacrylic acid ester, polyacrylic acid ester, polyvinyl chloride, and derivatives thereof [0033].

As per claim 7: a polymerization degree of R in the General formula (I) is from 2 to 500 [0047].

As per claim 8: the hereto bond in X in the General formula (I) is selected from the group consisting of an ether bond, an ester bond, a thioether bond, a thioester bond, a sulfonyl bond, an amide bond, an imide bond, a sulfonamide bond, a urethane bond, a urea bond, and a thiourea bond [0036].

As per claim 9: Y comprises a structural unit represented by A, and the structural unit A is a structural unit derived from vinyl alcohol, α -methylvinyl alcohol, or α -propylvinyl alcohol [0041].

As per claim 10: the structural unit B is a structural unit derived from vinyl acetate, vinyl formate, vinyl propionate, or an α -substitution product thereof [0042].

As per claim 11: Y comprises a structural unit C, and the structural unit C is a structural unit derived from acrylic acid, methacrylic acid, itaconic acid, maleic acid, an ammonium salt thereof or a metal salt thereof [0043].

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As per claim 12: Y comprises a structural unit D, and the structural unit D is selected from the group consisting of $-\text{CH}_2\text{CH}(\text{OH})\text{CH}_2\text{O}-$, $-\text{CH}_2\text{C}(\text{CH}_3)(\text{OH})\text{CH}_2\text{O}-$, and $-\text{CH}_2\text{C}(\text{C}_2\text{H}_5)(\text{OH})\text{CH}_2\text{O}-$ [0044].

As per claim 13: a mass ratio of R to $(\text{Y})_n$ in general formula (I) is from 0.01 to 2, the mass ratio being calculated using atomic weights of respective atoms in R to $(\text{Y})_n$ [0051].

As per claim 14: $(\text{Y})_n$ comprises, as structural units thereof, ethylene, propylene, isobutene, acrylonitrile, acrylamide, methacrylamide, N-vinylpyrrolidone, vinyl chloride, or vinyl fluoride [0050].

Aono et al. do not disclose:

As per claims 1 and 22: an ink containing a pigment.

As per claim 15: water.

As per claim 16: a water soluble organic solvent.

As per claim 17: a dispersing agent.

As per claim 18: a drying inhibitor.

As per claim 19: a penetration promoter.

As per claim 21: a surface tension of 20 to 60 mN/m.

Ota et al. disclose the following claim limitations:

As per claims 1 and 22: an ink containing a pigment [0019]

As per claim 15: water [0199]

As per claim 16: a water soluble organic solvent [0199]

As per claim 17: a dispersing agent [0059]

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As per claim 18: a drying inhibitor [0202].

As per claim 19: a penetration promoter [0006]

As per claim 21: a surface tension of 20 to 60 mN/m [0177].

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the compound taught by Aono with the ink and method taught by Ota et al. in order to provide a high quality ink with easy printing.

Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Aono (US 2003/0235707 A1) and Ota et al. (US 2002/0075369 A1), and further in view of Miyabayashi (US 2002/0077385 A1).

Aono as modified disclose the following claim limitations:

As per claim 20: the ink taught in claim 1.

Aono as modified do not disclose the following claim limitations:

As per claim 20: a high-boiling water-soluble solvent and a surface tension adjuster.

Miyabayashi discloses the following claim limitations:

As per claim 20: a high-boiling water-soluble solvent [0159] and a surface tension adjuster [0177].

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the ink taught by Aono as modified with the disclosure of Miyabayashi in order to provide an ink with an excellent fixing property.

Response to Arguments


Applicant's arguments with respect to claims 1-23 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura E. Martin whose telephone number is (571) 272-2160. The examiner can normally be reached on Monday - Friday, 7:00 - 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen D. Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Laura E. Martin

 8/13/07
MANISH S. SHAH
PRIMARY EXAMINER